Normally, the tendon to the second toe was from one-fourth to one-third of the size—sometimes more, sometimes less—of the tendon to the great toe, and therefore of nearly full proportionate size, when the relative magnitude and strength of the two toes were considered. It was larger than, and might be twice as large as, the tendon which the second toe received from the flexor longus digitorum, underneath which (as the sole lay in dissection) it passed before the two united, and the first lumbricalis muscle arose from it more than from the tendon of the flexor longus digitorum. By its connection with the expansion formed by the flexor longus digitorum, or rather with that of the flexor accessorius, it was enabled to act, though less directly, on the other toes, at least on the third. The flexor longus digitorum sometimes also gave, in exchange, a slip to the flexor pollicis, but this is a variety.

The occurrence of a tendon from the flexor longus pollicis to the second toe had been looked on by some as a variety, and as then establishing a significant correspondence to the condition in some of the quadrumana. The true zoological affinity was, however, best indicated by considering that, in ordinary five-toed quadrupeds, the five toes were supplied by a common muscle, that in the quadrumana there was either the same, or two common flexors variously disposed, or a connection between the two muscles, while, in man, the corresponding condition remained in the foot, but disappeared in the hand by the complete differentiation of the flexor longus pollicis from the flexor profundus digitorum. The enormous development of the hallux, required for the erect posture, with the corresponding development of its long tendon, threw the other tendon relatively into the shade; but the connection was not severed, as the hallux was not used as an independent digit, as the pollex of the hand was. What was remarkable in man, therefore, was not the presence of an association between the tendon of the pollex of the foot with the tendons of the other digits, but the absence of it in the hand.—*Edinburgh Medical Journal*, July, 1863.

MATERIA MEDICA AND PHARMACY.

9. *Gluten in Crust of Bread.*—M. Barral has presented to the Academy of Sciences some remarks of much interest concerning the crust of bread and the gluten contained in it. He had recently shown that, when equally dried, the crust of bread is more highly azotized than the crumb; and he also showed that the crust was more soluble than the crumb in water. M. Payen had, it is true previously pointed out this greater solubility of the crust, and had ascribed it to the conversion of the starch into dextrine during the baking. But M. Barral's experiments show another important fact. "If," he says, "we exhaust with water an equal quanity of dry crust and dry crumb of bread, we find that the soluble portion of the crust consists of from seven to eight per cent. of nitrogen, whilst the soluble portion of the crumb contains only from two to three per cent. The greater solubility of the crust consequently, depends upon the transformation which its gluten has undergone under the direct action of the 200° to 220° heat of the oven. The soluble portion of the crust is more highly azotized than the juice of meat." M. Barral added, that he was still engaged with his experiments, which would throw some new light on panification.

10. *Combination of Protiodide of Iron and Manna.*—The protiodide of iron, in the form of pills, is very commonly employed in France, and the preparation generally contains the protiodide with a certain proportion of honey powdered liquorice, and powdered mallow. M. Foucher recommends a kind of sugar-plum (*dragée*), composed of protiodide of iron, purified manna in tears, and powdered liquorice and mallow. By the union of these substances, M. Foucher obtains a mass in which the combination of manna with the protiodide preserves the latter from any alteration, and it forms a true paste which, when divided into pills or *dragées*, softens by the heat of the hand. Each *dragée* broken

into pieces presents internally the greenish colour characteristic of the well-prepared and well-preserved protosalt of iron. In this preparation, therefore, there are two essential conditions observed—namely, the preservation of the salt without chemical alteration, and its easy solubility in the digestive passages. But M. Foucher also believes that the manna, by its laxative operation and its stimulating the secretions of the digestive canal, would also act both in facilitating the absorption of the drug and preventing the tendency to constipation which is one of the most troublesome effects of the ferruginous preparations.—*Brit. and For. Med.-Chir. Rev.*, July, 1863, from *L'Union Médicale*, April 7, 1863.

11. *Liquid Permanganate of Potash.*—M. LECONTE prepares this solution in the following manner: Caustic potash, six drachms; chlorate of potash, five drachms; binoxide of manganese, five drachms. Dissolve the caustic potash and the chlorate in a small quantity of water, and add the manganese; get rid of the water by evaporation, stirring constantly, and calcine the dry mass to a dark red for an hour in an untinned iron cup; allow to cool, and add a quart of plain water. Then boil for five minutes in a china capsule, and you will obtain a fluid of a slightly purplish tint; decant the solution, and wash the residue with such a quantity of water as to make altogether two quarts. When filtering is thought necessary, the liquid should be passed, not through paper, but through very fine sand. For dressing foul wounds, or for injecting, use one drachm of this solution to from three drachms to five of spring water.—*Lancet*, Aug. 22, 1863.

MEDICAL PATHOLOGY AND THERAPEUTICS, AND PRACTICAL MEDICINE.

12. *Epidemic Angina Pectoris.* By M. GÉLINEAU.—This epidemic, which seems to be not unlike one which was described by Dr. Von Kleefeld as occurring at Dantzig in 1824, prevailed on board the *Embuscade*, a corvette in the French Imperial navy, in 1858. The crew of this vessel numbered 250 men and boys. For some months this crew had been exposed to considerable alternations of climate, in consequence of the corvette being constantly on the move between stations on the Mexican, the Chilian, and the California coast; and besides this, there was reason to believe that not a few of the number were abandoned to various most demoralizing practices. The epidemic angina pectoris, which broke out in the neighborhood of St. Helena, after some days of very stormy weather, was preceded by a few isolated cases of the same disorder, and of colic, neuralgia, and scurvy. On the 13th of March, an old sailor, who was both scorbutic and anæmic, was attacked while climbing the mast; five days later three others were attacked in the same manner; and between the 18th and the 23d two others. The corvette remained at St. Helena ten days, and during this time the health of the men improved and there were no fresh cases of angina pectoris; but as soon as the vessel got out to sea again—as soon, almost, as the voyage was resumed—six new cases broke out, in persons all of whom were very decidedly scorbutic. M. Gélineau, after detailing the individual cases, gives the following general description of the disorder. The pain begins invariably at the sternum, and is acute in proportion to its vicinity to the heart. It is behind and to the left of the sternum, generally. In one instance it began at the basis of the thorax, in another over the musculus rectus, in a third in the right hypogastrium; in all cases it shot in unbearable pangs towards the heart, and usually these pangs were accompanied by a distinct dread of death. In the majority there was, in addition, a pain in the left shoulder. The patients sought relief by drawing deep breaths, and by bending towards the left side. The pulse generally was retarded and small, and not unfrequently this condition of the pulse was accompanied by palpitation and violent action of the heart, as judged by the strong impulse of the apex of